| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/CharacterIterator.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/java/text/BreakIterator.html)   [**NEXT CLASS**](http://docs.google.com/java/text/ChoiceFormat.html) | [**FRAMES**](http://docs.google.com/index.html?java/text/CharacterIterator.html)    [**NO FRAMES**](http://docs.google.com/CharacterIterator.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
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## **java.text**

Interface CharacterIterator

**All Superinterfaces:** [Cloneable](http://docs.google.com/java/lang/Cloneable.html) **All Known Subinterfaces:** [AttributedCharacterIterator](http://docs.google.com/java/text/AttributedCharacterIterator.html) **All Known Implementing Classes:** [Segment](http://docs.google.com/javax/swing/text/Segment.html), [StringCharacterIterator](http://docs.google.com/java/text/StringCharacterIterator.html)

public interface **CharacterIterator**extends [Cloneable](http://docs.google.com/java/lang/Cloneable.html)

This interface defines a protocol for bidirectional iteration over text. The iterator iterates over a bounded sequence of characters. Characters are indexed with values beginning with the value returned by getBeginIndex() and continuing through the value returned by getEndIndex()-1.

Iterators maintain a current character index, whose valid range is from getBeginIndex() to getEndIndex(); the value getEndIndex() is included to allow handling of zero-length text ranges and for historical reasons. The current index can be retrieved by calling getIndex() and set directly by calling setIndex(), first(), and last().

The methods previous() and next() are used for iteration. They return DONE if they would move outside the range from getBeginIndex() to getEndIndex() -1, signaling that the iterator has reached the end of the sequence. DONE is also returned by other methods to indicate that the current index is outside this range.

Examples:

Traverse the text from start to finish

public void traverseForward(CharacterIterator iter) {  
 for(char c = iter.first(); c != CharacterIterator.DONE; c = iter.next()) {  
 processChar(c);  
 }  
 }

Traverse the text backwards, from end to start

public void traverseBackward(CharacterIterator iter) {  
 for(char c = iter.last(); c != CharacterIterator.DONE; c = iter.previous()) {  
 processChar(c);  
 }  
 }

Traverse both forward and backward from a given position in the text. Calls to notBoundary() in this example represents some additional stopping criteria.

public void traverseOut(CharacterIterator iter, int pos) {  
 for (char c = iter.setIndex(pos);  
 c != CharacterIterator.DONE && notBoundary(c);  
 c = iter.next()) {  
 }  
 int end = iter.getIndex();  
 for (char c = iter.setIndex(pos);  
 c != CharacterIterator.DONE && notBoundary(c);  
 c = iter.previous()) {  
 }  
 int start = iter.getIndex();  
 processSection(start, end);  
 }

**See Also:**[StringCharacterIterator](http://docs.google.com/java/text/StringCharacterIterator.html), [AttributedCharacterIterator](http://docs.google.com/java/text/AttributedCharacterIterator.html)

| **Field Summary** | |
| --- | --- |
| static char | [**DONE**](http://docs.google.com/java/text/CharacterIterator.html#DONE)            Constant that is returned when the iterator has reached either the end or the beginning of the text. |

| **Method Summary** | |
| --- | --- |
| [Object](http://docs.google.com/java/lang/Object.html) | [**clone**](http://docs.google.com/java/text/CharacterIterator.html#clone())()            Create a copy of this iterator |
| char | [**current**](http://docs.google.com/java/text/CharacterIterator.html#current())()            Gets the character at the current position (as returned by getIndex()). |
| char | [**first**](http://docs.google.com/java/text/CharacterIterator.html#first())()            Sets the position to getBeginIndex() and returns the character at that position. |
| int | [**getBeginIndex**](http://docs.google.com/java/text/CharacterIterator.html#getBeginIndex())()            Returns the start index of the text. |
| int | [**getEndIndex**](http://docs.google.com/java/text/CharacterIterator.html#getEndIndex())()            Returns the end index of the text. |
| int | [**getIndex**](http://docs.google.com/java/text/CharacterIterator.html#getIndex())()            Returns the current index. |
| char | [**last**](http://docs.google.com/java/text/CharacterIterator.html#last())()            Sets the position to getEndIndex()-1 (getEndIndex() if the text is empty) and returns the character at that position. |
| char | [**next**](http://docs.google.com/java/text/CharacterIterator.html#next())()            Increments the iterator's index by one and returns the character at the new index. |
| char | [**previous**](http://docs.google.com/java/text/CharacterIterator.html#previous())()            Decrements the iterator's index by one and returns the character at the new index. |
| char | [**setIndex**](http://docs.google.com/java/text/CharacterIterator.html#setIndex(int))(int position)            Sets the position to the specified position in the text and returns that character. |

| **Field Detail** |
| --- |

### DONE

static final char **DONE**

Constant that is returned when the iterator has reached either the end or the beginning of the text. The value is '\\uFFFF', the "not a character" value which should not occur in any valid Unicode string.

**See Also:**[Constant Field Values](http://docs.google.com/constant-values.html#java.text.CharacterIterator.DONE)

| **Method Detail** |
| --- |

### first

char **first**()

Sets the position to getBeginIndex() and returns the character at that position.

**Returns:**the first character in the text, or DONE if the text is empty**See Also:**[getBeginIndex()](http://docs.google.com/java/text/CharacterIterator.html#getBeginIndex())

### last

char **last**()

Sets the position to getEndIndex()-1 (getEndIndex() if the text is empty) and returns the character at that position.

**Returns:**the last character in the text, or DONE if the text is empty**See Also:**[getEndIndex()](http://docs.google.com/java/text/CharacterIterator.html#getEndIndex())

### current

char **current**()

Gets the character at the current position (as returned by getIndex()).

**Returns:**the character at the current position or DONE if the current position is off the end of the text.**See Also:**[getIndex()](http://docs.google.com/java/text/CharacterIterator.html#getIndex())

### next

char **next**()

Increments the iterator's index by one and returns the character at the new index. If the resulting index is greater or equal to getEndIndex(), the current index is reset to getEndIndex() and a value of DONE is returned.

**Returns:**the character at the new position or DONE if the new position is off the end of the text range.

### previous

char **previous**()

Decrements the iterator's index by one and returns the character at the new index. If the current index is getBeginIndex(), the index remains at getBeginIndex() and a value of DONE is returned.

**Returns:**the character at the new position or DONE if the current position is equal to getBeginIndex().

### setIndex

char **setIndex**(int position)

Sets the position to the specified position in the text and returns that character.

**Parameters:**position - the position within the text. Valid values range from getBeginIndex() to getEndIndex(). An IllegalArgumentException is thrown if an invalid value is supplied. **Returns:**the character at the specified position or DONE if the specified position is equal to getEndIndex()

### getBeginIndex

int **getBeginIndex**()

Returns the start index of the text.

**Returns:**the index at which the text begins.

### getEndIndex

int **getEndIndex**()

Returns the end index of the text. This index is the index of the first character following the end of the text.

**Returns:**the index after the last character in the text

### getIndex

int **getIndex**()

Returns the current index.

**Returns:**the current index.

### clone

[Object](http://docs.google.com/java/lang/Object.html) **clone**()

Create a copy of this iterator

**Returns:**A copy of this

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/CharacterIterator.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
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[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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